

*PORITES COLONENSIS*, NEW SPECIES OF STONY  
CORAL (ANTHOZOA: SCLERACTINIA) OFF THE  
CARIBBEAN COAST OF PANAMA

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*Abstract.*—A new species of *Porites* (*P. colonensis*) from off the Caribbean coast of Panama is described. It is common and has very thin, undulated, foliaceous colonies; pali; and has dark brown or red tissues with white or green polyp centers.

New species of shallow water corals are unusual, particularly in an area frequently visited by reef investigators. The new scleractinian from Panama, described below, is common, and very easily distinguished underwater and in the laboratory by color, colony shape, and skeletal elements.

Order Scleractinia Bourne, 1900  
Suborder Fungiida Duncan, 1884  
Superfamily Poritioidea Gray, 1842  
Family Poritidae Gray, 1842  
Genus *Porites* Link, 1807

not *Porites* Cuvier, 1798:678-679 (= *Galaxea* Oken, 1815; *Dendrophyllia* Blainville, 1830; *Mussa* Oken, 1815 sensu Veron and Pichon, 1982:141). (A proposal to suppress *Porites* Cuvier, 1798 is necessary in order to validate the priority of Link's authorship.)

*Porites* Link, 1807:162.

*Neoporites* Duchassaing & Michelotti, 1866: 191.

*Cosmoporites* Duchassaing & Michelotti, 1866:193.

*Type species.*—*Porites polymorphus* Link, 1807 (by tautonomy) = *Madrepora porites* Pallas, 1766 (in part).

This genus is cosmopolitan. Eocene-Recent. Abundant reef coral since Miocene.

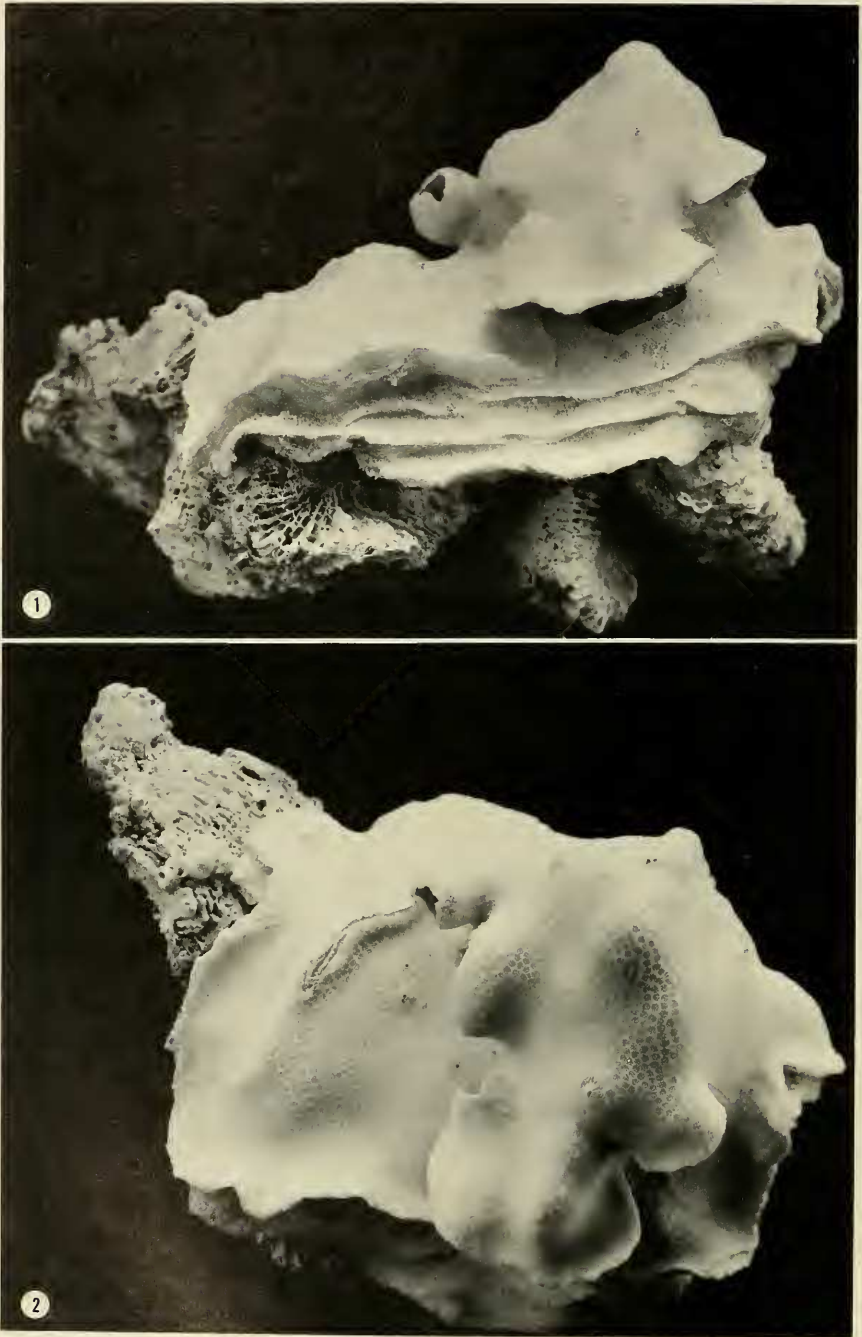
*Porites colonensis*, new species  
Figs. 1-20

*Etymology.*—From the name of the town of Colon, Panama.

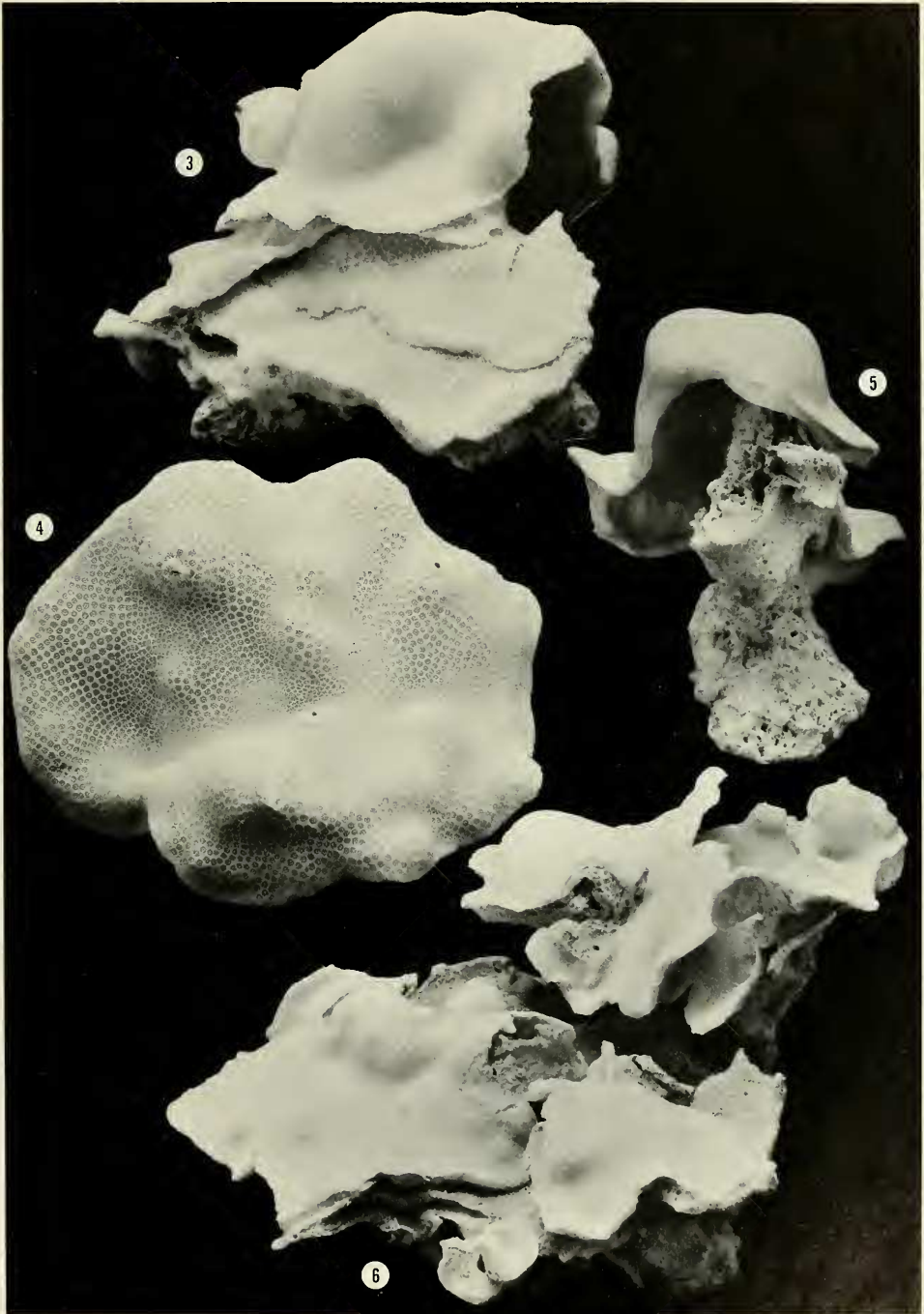
*Diagnosis.*—*Porites* with very thin, foliaceous, undulated colonies. Lower surface with concentric holotheca. Corallites distinct to poorly distinguishable. Axial structure absent (empty fossa) or present (from weak columella to massive columella with a central tubercle). Septal plan bisymmetrical, more or less clear; a dorsal directive septum, a ventral directive septum with two other septa fuse in triplet and four lateral pairs of septa arranged symmetrically in relation to the dorso-ventral axis. Five pali (one on the triplet, and one on each lateral pair), seldom six pali. Tissue color: ordinarily polyps are very dark brown with small bright white centers; polyps may be dark red with green centers. Distinguishing characters: foliaceous colony shape, presence of pali, and the dark (brown or red) color of the polyp with contrasting white or green centers.

*Holotype.*—USNM 82020 (Figs. 1, 2 and 7): Length 112 mm, width 93 mm, height 74 mm, thickness of the folia at peripheral edge 1-4 mm; collected 20 Aug 1987 by V. Zlatarski and H. Guzman.

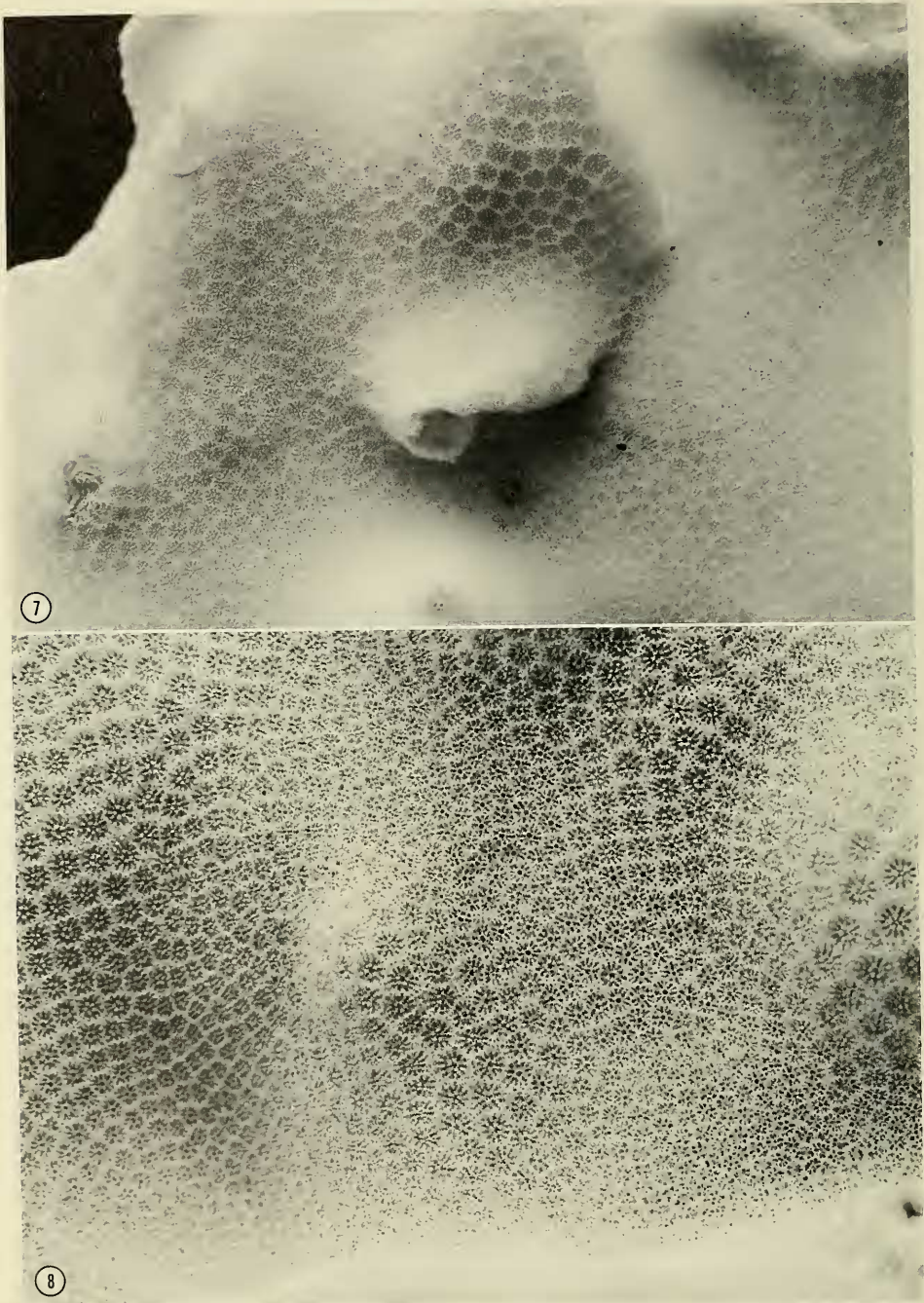
*Paratypes.*—USNM 82021-82054 (Figs.



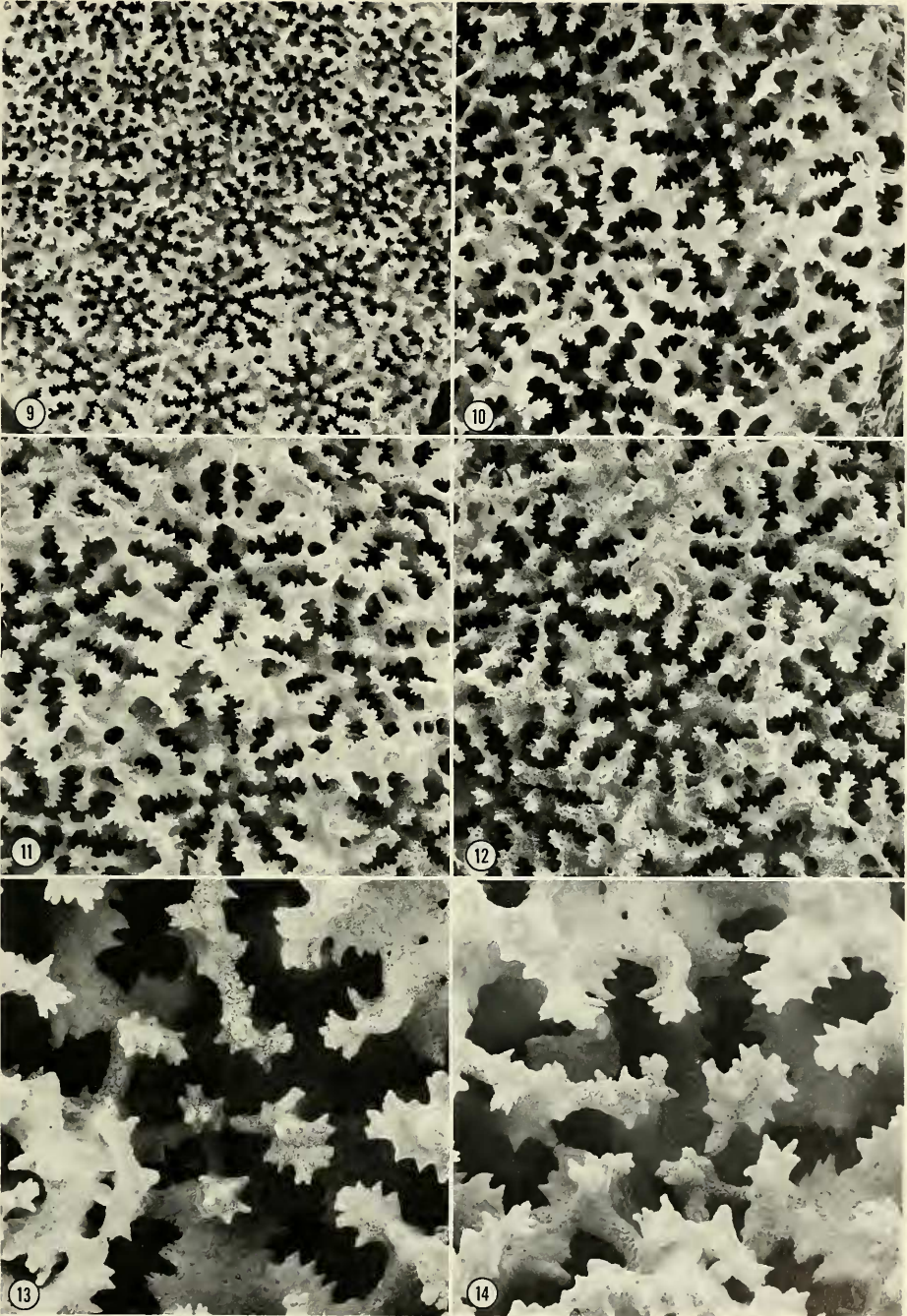
Figs. 1-2. *Porites colonensis*, holotype, USNM 82020: 1, Side view, colony growing on *Mussa angulosa* (Pallas, 1766) Oken, 1815; 2, Top view, both  $\times 0.77$ .



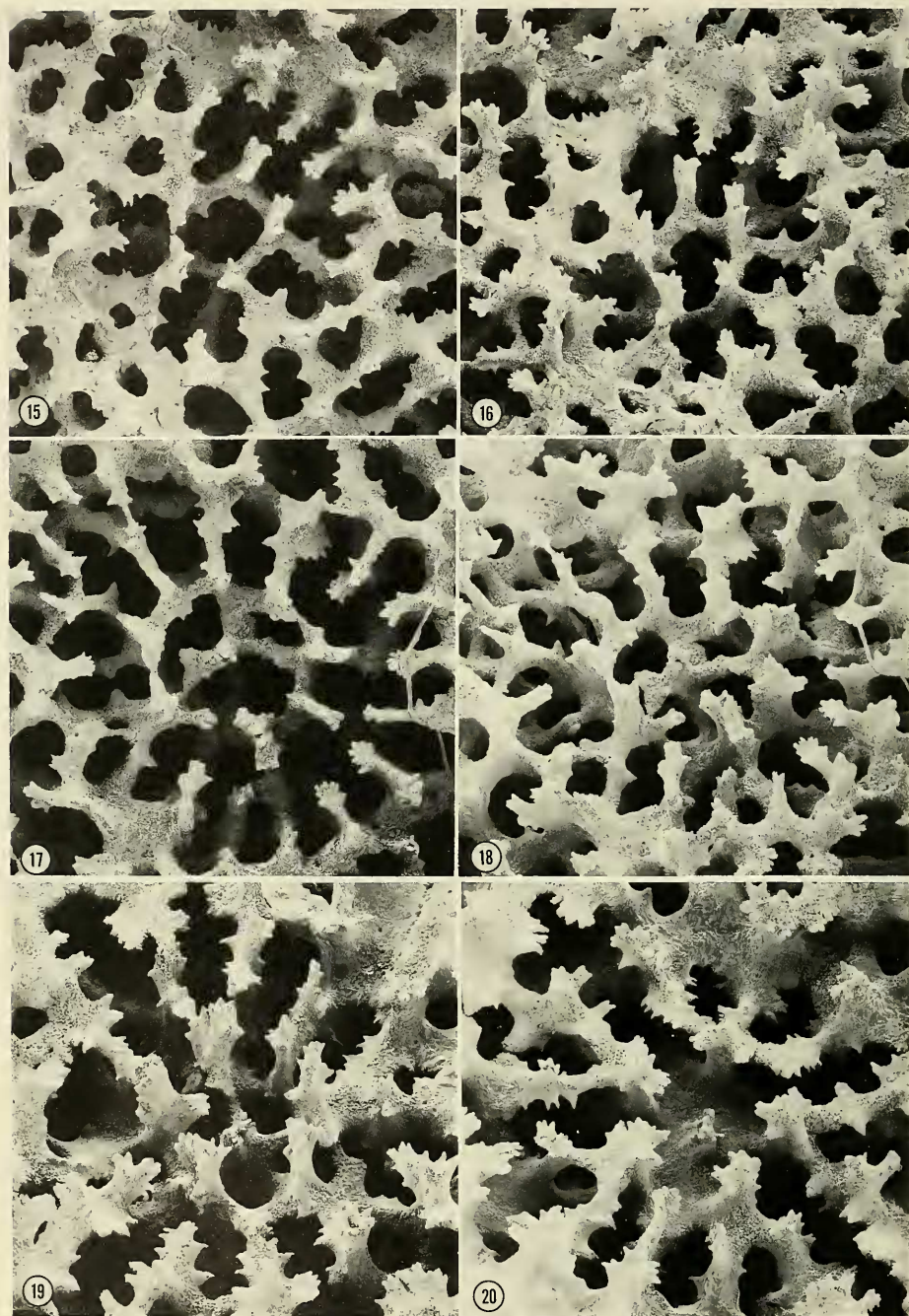
Figs. 3-6. *Porites colonensis*, paratypes, colony morphology: 3, USNM 82022; 4, Corallite size variation, USNM 82024; 5, USNM 82023; 6, USNM 82021, all figures  $\times 0.77$ .



Figs. 7-8. *Porites colonensis*, pali, variation of skeletal structure and corallite diameter: 7, Holotype, USNM 82020,  $\times 2.24$ ; 8, Paratype, USNM 82024,  $\times 3.2$ .



Figs. 9-14. *Porites colonensis*, paratype, USNM 82028, variability within one colony: 9, USNM 82028D, in the upper part of the photo—small corallites with thin septa, with axial fossa or with weak columella; in the lower part of the photo—much larger corallites with thicker septa and with weak or strong columella,  $\times 11$ ; 10, USNM 82028A, thin skeletal elements, not well distinguished corallites, presence of axial fossa or weak columella,  $\times 19$ ; 11, USNM 82028C, moderate thick skeletal elements, well distinguished corallites, presence of axial fossa or weak columella,  $\times 19$ ; 12, USNM 82028C, thick skeletal elements, well distinguished corallites, presence of axial fossa, weak or strong columella,  $\times 19$ ; 13-14, Vertical and oblique views of one columella, USNM 82028B,  $\times 64$ .



Figs. 15–20. *Porites colonensis*, paratype, USNM 82027, variability within one colony—axial structure and ornamentation of septa and pali: 15–16, Vertical and oblique views of one axial fossa, USNM 82027B,  $\times 38$ ; 17–18, Vertical and oblique views of a weak columella, USNM 82027B,  $\times 38$ ; 19, Oblique view of weak columella, USNM 82027A,  $\times 45$ ; 20, Massive columella with central tubercle, clear septal plan (down left—a dorsal directive septum, up right—a ventral directive septum) fused with two septa in a triplet, and four lateral pairs of septa arranged symmetrically in relation to the dorso-ventral axis, USNM 82027A,  $\times 45$ .

3–6, 8–20), collected from 26 Jun 1987 to 23 Sep 1987, by V. Zlatarski and H. Guzman.

*Type locality.*—Off the southeast coast of the island of Largo Remo, east of Colon, Bahía Las Minas; depth 3 m.

*Description.*—Colony with irregular foliaceous form (Figs. 1–6), generally attached by a small central area to coralla of other Scleractinia (Fig. 1) or growing on sponges. Maximal colony diameter ranges from 4 to 13 cm. Peripheral edge of colony rounded, generally undulated. Foliage of colony thin (generally 1–4 mm, seldom 6 mm). Colonies sometimes form foliaceous layers (Figs. 1, 3, 6) of which only the uppermost is alive. Lower surface of corallum covered by distinct rings of holotheca, concentric to the attachment of the colony. Calicular surface cerioid. Corallites vary from indistinguishable to quite discrete, their diameter measured from the middle of the wall varies from 0.6 to 1.3 mm. Skeletal elements not compact but porous, thus they do not have constant width and thickness, and therefore all measurements correspond only to the plane of the measurements. Corallites on concave areas of colony surface generally smaller than corallites on convex parts of the colony. In the first case calices not well distinguished, small (diameter 0.6–0.7 mm), and skeletal elements thin, but in the convex parts calices are well distinguished, well separated, larger (diameter 1.0–1.3) and wall and septa are thicker (Figs. 4, 8–12). Septal plan bisymmetrical, varying from unclear (Figs. 9, 10) to clear (Fig. 20). In clearly bisymmetrical plans dorsal directive septum is independent. Opposite to it is the ventral directive septum, which is fused with 2 other septa in triplet. Four lateral pairs of septa arranged symmetrically in relation to dorso-ventral axis. Septa ornamented by more or less inclined to vertical angular granules, varying in shape, size, number, distribution, and orientation (Figs. 9–20). Generally 5 pali surround corallite center (Figs. 7, 8), located on the top of triplet and

on axial edge of each lateral pair. Sometimes there is a smaller 6th palus on axial edge of dorsal directive septum. The pali are vertical (Figs. 15–19) or inclined (Figs. 13, 14, 20); their granulation is variable in shape, number and distribution (Figs. 9–12). The axial structure (columella) is the most variable skeletal element, being present or absent in neighboring corallites (Figs. 10–12). When it is absent, the 5 (sometimes 6) pali are connected in a ring circumscribing the deep axial fossa (Figs. 8—center, 15, 16). When present, the columella may be parietal, formed by 4 or more continuations of the septa, not on the same level, toward the center of the calice (Figs. 17–19). Elsewhere, the columella may be considerable and even become massive, occupying all the space inside the pali, and furnished with a central tubercle (Fig. 20). The wall is a synapticulotheca.

The color of the living tissues is very dark brown with very bright white polyp centers or dark red with green centers.

*Ecology.*—Found on tilted reef slopes, at depths of 3 to 27 m; usually in small cavities (with approximately diameter 20 cm), fixed on dead parts of other Scleractinia or on Porifera.

*Distribution.*—Caribbean coast of Panama, from Colon to Isla Grande and in San Blas area. Localities of collected specimens: Largo Remo Island, depth 3 m, USNM 82020–82029, 82032, 82033, 82039–82054; Payardi (in front of the Refinery, depth 4.5 m, USNM 82030, 82031, 82034; Naranjo Abajo Island, depth 7 m, USNM 82038; Palina (El Mamey), USNM 82035, depth 8 m, USNM 82036, depth 2.8 m, USNM 82037, depth 3 m. Also observed at the last locality at 13 m and 17 m depths. Observed also near Portobelo, and in Holandes, San Blas area (depth 3–27 m).

*Comparison and discussion.*—*P. colonensis* differs from *P. astreoides* Lamarck, 1816 by a combination of three characters: the presence of pali, the foliaceous colony form, and the dark polyp color with white or green

centers. It is distinguished from all branching *Porites* by its colony form and by the two colors of its living tissues. The poor knowledge of *P. branneri* Rathbun, 1888 in Caribbean waters makes it difficult to compare that species to other *Porites*. Nonetheless, the material described here is well distinguished by its colony shape, corallite and colony size, skeletal characters and tissue colors from the data existing on Brazilian *P. branneri* and the characters of its type specimens (USNM 10961, 10962).

In the area where *P. colonensis* was found, *P. astreoides* and the branching *Porites* were also observed, but colonies having intermediate characters between *P. colonensis* and the other *Porites* were not found. This observation and the presence of the character combination described previously are the reasons for describing it as a new species. Future studies will bring additional information about the polyps and the skeletal characteristics on different levels of biological organization, about the life history and the distribution of this new taxon, and will undoubtedly improve the taxonomy of the genus. It is clear that until now, no *Porites* has been described with these characters and that its representatives do not show intermediates with the representatives of the other living *Porites* species.

The only similar fossil species to *P. colonensis* is *P. trinitatis* Vaughan, 1926 (in Vaughan & Hoffmeister, 1926), from the Miocene of Trinidad. The types of *P. trinitatis* (holotype USNM M053674, and five paratypes USNM 68302) do not show sufficient details of the skeletal structures for a good comparison. Nevertheless, *P. colonensis* has thinner, undulated colony plates, and smaller corallites. (In *P. trinitatis* the diameter of the corallites is 1.25 mm–1.8

mm, in average 1.6 mm). Future studies should be done on more and better preserved fossil material.

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